

- Selection pressure:

Environment removes organisms with traits that **do not help** survival and reproduction.

For example: wind, temperature, and amount of rain.

- Frequency:

The number of times a specific value occurs in a set of data.

- Adaptation:

An inherited trait or set of traits that improve an organism's chance of survival and reproduction in the environment.

- Extinct:

With extreme selection pressure causes an organism to die off.

- Evolution:

The change in frequencies of traits in a population over time, natural selection **leads to this**.

Natural selection:

Differences in survival and reproduction among members of a population as a **result of selection pressure**.

- Theory: A general statement that is supported by **several scientific observations**.

 - Artificial Selection: **People select traits** they like or need in animals and plants. These traits are then crossed.

 - DNA: Genetic material in a cell that stores and transmits genetic information from one generation to the next.

 - Nucleus: Contain DNA and is the control center of the cell.
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1. Give two examples of structural and behavioral adaptation of a dog.
 - Structural: Body shape, color, ear and leg structure and teeth size.

- Behavioral: feeding behaviors, takes food away from the pack, growls and shows teeth before attacking.

2. Explain the relationship between natural selection and evolution.

Natural selection leads to evolution. Natural selection motors toward evolution.

Natural selection determines the survival and reproduction of traits and evolution is the change in frequencies of traits over time, natural selection **leads to this**.

3. In the springtime many people have their house sprayed to prevent the nesting of bees. If the population initially drops off but two months later you notice an increase in the population. Using what you have learned about variation in traits explain the increase in population.

There was a natural variation among the bees and some of the bees died from the spray, while the others were able to survive and reproduce. These traits were then passed on to the next generation.

4. A dog breeder in Wisconsin likes the poodle trait for not shedding and Labrador trait for size. The breeder combines these two traits together to create a Laberdoodle. What process is this called and explain why people use this process.

Artificial Selection is the process when people take traits they like or need and cross the two breeds. This is why there are so many different types of dogs.

5. How do traits and environment interact?

In order for traits of plants or animals to survive and reproduce they have to be able to adapt to the environmental factors or else the traits will become extinct.

6. Describe the difference between artificial and natural selection. Be sure to include the selection pressure

Natural selection is when the **environment** decides which traits survive and reproduce

Artificial selection is when **people** decided which traits carry on.

Scientist's Name	Discovery/Accomplishments
Friedrich Miescher	<ul style="list-style-type: none"> * Discovered DNA, called it Nuclein. * Used hospital bandages to look at white blood cells. * 1869
Rosalind Franklin	<ul style="list-style-type: none"> *Used X-rays to study the structure of DNA. *1950's
Crick, Watson, and Wilkins	<ul style="list-style-type: none"> * Created a Model of DNA * Used the research of Franklin's x-rays and Pauling's research of how molecules connect.
Charles Darwin	<ul style="list-style-type: none"> * Naturalist * Traveled on the HMS Beagle Called the process of survival and reproduction Natural selection.

